

•EMAC frames with the same HINOC destination address are combined into a HIMAC data frame

•One (or several) HIMAC data frame is carried by one FEC block of PHY

•The length of HIMAC Frame and FEC block are fixed

•Use fragmentation to improve transmission efficiency

















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Over View

- Channel Allocation of a MAP Cycle
 - Report/Grant mechanism is used.
 - Current queue information is reported to HB by each HM.
 - According to HMs' reports and local queue information, HB gives a channel plan in MAP frame which is transmitted to each HM.
 - HB and HMs transmit data according to MAP frame.





- Channel Structure
 - the entire time of channel, except for periodical slots of downlink/uplink signaling frames, is filled with non-overlapping MAP cycles.
 - The length of Pd cycle is 65536us.
 - The interval between Pd frame timeslot and the 5th Pu frame timeslot is 32768us.





- The 128MHz channel is divided into 8 Sub-Channel(SC) of 16MHz
- In 8 SCs, SC 0 is basic SC, while others are extended SC. An extended SC can be optionally configured as basic SC. Each HM uses 1 basic SC and 0-7 extended SC for data transmission
- In each SC, there is a MAP frame in every MAP cycle and each MAP frame indicate the next map cycle allocation of this SC. every SC's allocation is independent



• MAP Cycle Structure





- An Example (If CP =1us)
- Fixed MAP cycle: 146 OFDM symbols, 140 available.
- HB uses 5-7th symbols to transmit MAP frame .
- HMs use some of the symbols between 133-139th to transmit R frame.
 (the number and position of the symbols used by HM is allocated by HB during node admission control and line maintenance.)
- 3 symbols for down/up switch, 3 symbols for up/down switch.
- The other 130 symbols used to transmit data frame
 - Fixed downstream: 8 symbols must be used to transmit downlink data frame.
 - Fixed upstream: 8 symbols must be used to transmit uplink data frame.
 - 114 symbols used flexible for downlink or uplink data frame.





Channel allocation in TDMA and OFDMA mode







•Thank you!



